UNITED STATES PATENT AND TRADEMARK OFFICE

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10/630,419	07/30/2003	William Randolph Schmidt	MP0974(13036/15)	7838

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>16 January 2009</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>36 and 38-52</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>36 and 38-52</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1.   Claims 36, and 38-52 are pending in this application.

Claims 1-20 and 37 were previously canceled.

Claims 21-35 and 53-61 were previously withdrawn.

Claims 40-44 and 47-52 are currently amended

Response to Arguments

2.   Regarding Applicant's Argument (page 8, lines 6-8):

"However, the rejection fails to address that the claim recites a substrate having

the processor, the system I/O, the formatter controller, and the print server located

thereon."

Examiner's Response:

Comer discloses "In a preferred embodiment, ...the microprocessor, which

consist of a single chip, is an embedded Internet server having a valid IP address. The

chip may include Ethernet MAC and system controllers for (e.g.) memory, DMA,

interrupts and timers. The chip may also include cache, I/O, real time operating

systems, device driver software and communications protocol software"; Column 3,

lines 5-15.

3.   Regarding Applicant's Argument (page 8, lines 13-15):

"In fact, Comer does not disclose that the print server (or microprocessor 16)

manages any print queue."

        Examiner's Response:

        Comer discloses an embedded server/microprocessor 16 in Figure 3. Figure 4

discloses that the processor has ROM and RAM and all of the networking software,

protocols and services integrated on "the chip"; Column 4, lines 38-59. Comer further

discloses a cache, and system controllers at Column 3, lines 11-13. It is well known in

the art that that web servers employ a cache/high speed buffer for temporary storage of

data in order to reduce the amount of information that needs to be transmitted across

the network. By disclosing a printer with an embedded print server, memory, and

integrated networking software, Comer is implicitly revealing the existence of a print job

because a print server by it's very nature accepts print jobs from computers and sends

the jobs to appropriate printers within e.g., a network.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claim 36, 38-41, and 44-52 are rejected under 35 U.S.C. 102(e) as being anticipated by Comer et al. (US 7,212,300) hereinafter 'Comer'.

Regarding Claim 36:   (Previously Presented)

Comer discloses a printer formatter comprising:

a processor to perform at least a first print function associated with a print job (e.g., microprocessor 16 shown in Figure 3);

a system input/output (I/O) associated with the processor to receive an input signal and provide an output signal (This Ethernet processor integrates a 32-bit ARM.RTM. processor, Ethernet MAC, DMA controllers, I/O, timers, etc., onto a single chip.);

a formatter controller to perform at least a first formatting function associated with the print job (This Ethernet processor integrates a 32-bit ARM.RTM. processor, Ethernet MAC, DMA controllers, I/O, timers, etc., onto a single chip); and

a print server, in communication with the processor, to manage a print queue (e.g., The microprocessor, which consist of a single chip, is an embedded Internet server having a valid IP address as described in Column 3, lines 7-9); and

a substrate having the processor, the system I/O, the formatter controller, and the print server located thereon (In a preferred embodiment, ...the microprocessor, which consist of a single chip, is an embedded Internet server having a valid IP address. The chip may include Ethernet MAC and system controllers for (e.g.) memory, DMA, interrupts and timers. The chip may also include cache, I/O, real time operating systems, device driver software and communications protocol software; Column 3, lines 5-15).

Regarding Claim 38:   (Previously Presented)

Comer further discloses the printer formatter of claim 36 wherein the printer

formatter comprises a single microchip that includes the processor, the system I/O, the

formatter controller, and the print server (The microprocessor, which consist of a single chip, is an

embedded Internet server having a valid IP address. The chip may include Ethernet MAC and system controllers for

(e.g.) memory, DMA, interrupts and timers. The chip may also include cache, I/O, real time operating systems, device

driver software and communications protocol software as described in Column 3, lines 5-15).

Regarding Claim 39: (Previously Presented)

Comer further discloses the printer formatter of claim 38 wherein the microchip is

configured to function within the printer (e.g., The circuit diagram for microprocessor 16 is shown in FIG.

3).

Regarding Claim 40:   (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the system I/O is

configured to receive the print job (e.g., Column 5, lines 20-45 discloses the process of a printing receiving

and printing data).

Regarding Claim 41:   (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the formatter controller

is configured to convert the print job from a first format to a second format (e.g., encoder 33

described in Column 4, lines 25-27)

Note: The Examiner perceives **encoding** to be the process of transforming

information <u>from one format into another</u>.

Regarding Claim 44: (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the system I/O is

configured to generate an I/O interrupt in response to receiving the input signal, and the

processor is configured to perform an I/O function in response to receiving the I/O

interrupt (e.g., the system controllers include memory, DMA, <u>interrupts</u> and timers as described in Claim 6;

Microprocessor uses an RTOS operating system which uses interrupts to manage shared data and hardware

resources among multiple tasks).

Regarding Claim 45:   (Previously Presented)

Comer discloses the printer formatter of claim 44 wherein the I/O function

includes receiving and storing the print job (e.g., FIG. 4 illustrates the memory (ROM and RAM) of the

processor used to store the instructions required by the processor so it may perform the functions necessary to print

images with a piezoelectric printhead).

Regarding Claim 46:   (Previously Presented)

Comer discloses the printer formatter of claim 44 wherein the I/O function

includes providing an indication to the print server that the print job has been received

(Referring now to FIGS. 3 -10, circuit diagrams showing various components of a particularly preferred embodiment

of the invention are provided. The circuit diagram for microprocessor 16 is shown in FIG. 3, and uses Ethernet

support supplied by NetSilicon. FIG. 4 illustrates the memory (ROM and RAM) of the processor used to store the

instructions required by the processor so it may perform the functions necessary to print images with a piezoelectric

printhead.).

Regarding Claim 47:   (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the print server is

configured to generate a print server interrupt in response to detecting the print job, and

the processor is configured to perform a print server function in response to receiving

the print server interrupt (e.g., the system controllers include memory, DMA, interrupts and timers as

described in Claim 6; Microprocessor uses an RTOS operating system which uses interrupts to manage shared data

and hardware resources among multiple tasks).

Regarding Claim 48:   (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the processor is

configured to store the print job in the print queue (FIG. 4 illustrates the memory (ROM and RAM) of

the processor used to store the instructions required by the processor so it may perform the functions necessary to

print images with a piezoelectric printhead.)

Regarding Claim 49:   (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the processor is

configured to provide a print job status notification. (The Internet connectivity of print engines 10 of

the present invention permits their access from an Internet browser, for example, which results in a number of

advantages. For example, the status of the print engines can be remotely monitored by a server operated by service

or manufacturing personnel, for example. Commands can be sent, either by print engine 10 or by the servicing

server, for example, and e-mail and pager alerts to or from the embedded server on the print engine may be sent or

received.)

Regarding Claim 50:   (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the processor is

configured to provide a print job complete notification. (The Internet connectivity of print engines

10 of the present invention permits their access from an Internet browser, for example, which results in a number of

advantages. For example, the status of the print engines can be remotely monitored by a server operated by service

or manufacturing personnel, for example. Commands can be sent, either by print engine 10 or by the servicing

server, for example, and e-mail and pager alerts to or from the embedded server on the print engine may be sent or

received.)

Regarding Claim 51:   (Currently Amended)

Comer discloses the printer formatter of claim 36 wherein the processor is

configured to provide a print error notification.(The Internet connectivity of print engines 10 of the

present invention permits their access from an Internet browser, for example, which results in a number of

advantages. For example, the status of the print engines can be remotely monitored by a server operated by service

or manufacturing personnel, for example. Commands can be sent, either by print engine 10 or by the servicing

server, for example, and e-mail and pager alerts to or from the embedded server on the print engine may be sent or

received.)

Regarding Claim 52:   (Currently Amended)

Honma discloses the printer formatter of claim 36 wherein the processor is

configured to remove the print job from the print queue in response to a cancel signal.

(This feature is inherent under the Simple Network Management Protocol (SNMP) and Management Information

Base (MIB) in order to facilitate the exchange of management information between network devices.)

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Comer et al. (US 7,212,300) hereinafter 'Comer' in view of Chadez et al. (US

6,522,420) hereinafter 'Chadez'.

Regarding Claims 42 and 43:   (Currently Amended)

        Comer discloses the printer formatter of claim 36 and 37, but does not expressly

disclose wherein the formatter controller is configured to <u>compress and decompress</u> the

print job.

        Chadez discloses wherein the formatter controller is configured to compress and

decompress the print job (Figure 3; Step 66 '<u>Compress</u> Raster Data' and Step 70 '<u>Decompress</u> Raster Data')

        Comer & Chadez are combinable because they are from the same field of

endeavor of image processing; e.g., both references are classified in Class 358

subclass 1.15 wherein both disclose details of communication between elements within

a static presentation system. At the time of the invention, it would have been obvious to

a person of ordinary skill in the art to have a formatter controller which is configured to

compress and decompress the print job. The suggestion/motivation for doing so is to

reduce the transmission time and printing time of an image or file. Therefore, it would have been obvious to combine Comer's printing system with Chadez's method for compressing and decompressing data to obtain the invention as specified in order to free up the controller to perform other tasks.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Okano (US 5,987,225) discloses a network including printing devices capable of processing both copying jobs and printing jobs, and also relates to a print output control device for performing various controls such as setting an operation mode of each printing device, assigning requested printing jobs to the printing devices.

9.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Neil R. McLean whose telephone number is (571)270-

1679. The examiner can normally be reached on Monday through Friday 7:30AM-

4:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David K. Moore can be reached on 571.272.7437. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Neil R. McLean/
Examiner, Art Unit 2625

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625